Small Business Innovation Research/Small Business Tech Transfer

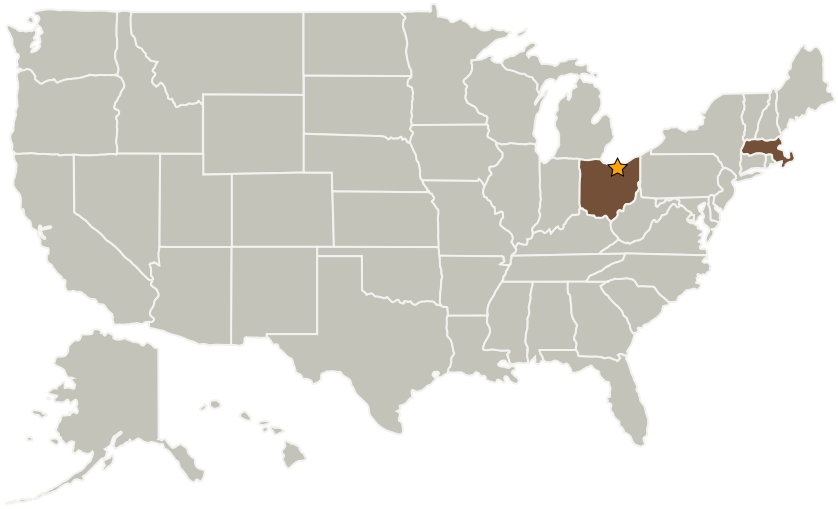
Lithium Battery Electrolytes for Long Cycle Life and Wide Operating Temperature Range, Phase I

Completed Technology Project (2004 - 2004)

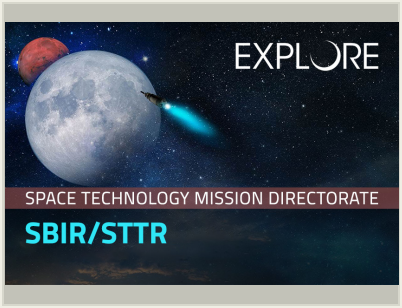
Project Introduction

New lithium battery electrolytes must be developed if these they are to be successfully deployed on NASA Platforms operating at -100oC to +100oC. Giner, Inc. has proposed an approach to preparing lithium ion conducting electrolytes which will provide cell current densities sufficient to carry the microwatt to milliwatt levels required for Low Earth Orbital Applications. Phase I will examine the low temperature phase behavior of the new electrolytes, ionic conductivity and chemical electrochemical stability in primary and secondary lithium cell environments, with exposures of up to +100oC in order to assess the likelihood of long cycle-life performance.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Giner Electrochemical Systems, LLC	Supporting Organization	Industry	Newton, Massachusetts



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
Massachusetts	Ohio

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Robert A Mcdonald

Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
  - TX03.2 Energy Storage
    - TX03.2.1 Electrochemical: Batteries